New Inventions.

Improvement in Electrotyping.

The *National Intelligencer* says an improvement in the process of electrotyping has been made, by which electrotypes can be produced with great rapidity and accuracy. The improvement consists in covering the face of the wax or other material of which the matrix is made, with fine metallic leaf before the impression is taken. In this way a perfect conducting metallic surface is obtained; that is, over the entire face of the letters, as well as over the spaces between the lines.

The sides of the letters do not, as a general thing, have a metallic conducting surface, inasmuch as the type, when the impression is taken, cut the leaf, and force a part of it down into the matrix, thus leaving the wax exposed on the sides of the letters. This cutting of the leaf, however, is rather an advantage, since such exposed parts of the wax are the very parts where a slow deposit is preferred, and which is effected by touching such parts over with plumbago. The advantages are these:—The moment that the mold or matrix is placed in the bath and the battery applied, the deposit of metal commences at once on the entire surface—the deposit being more rapid, however, on the face of the letters and on the spaces between the lines than on the sides of the letters; and this is just what is wanted, since it prevents, especially when the letters are small and deep, what is termed "bridging over" (hollow letters). By the use of silver leaf an electrotype may be produced with a bright silvered face—a feature of considerable importance in all cases where the plates are to be laid aside for future use, inasmuch as the face of the letters will not be so easily injured by long and continued exposure to air and moisture, as when of the usual copper face.

Electric Illumination.

Some attempts recently made at Paris towards illuminating the bottom beneath water, possess considerable interest in a scientific point of view. The electrodes of carbon were placed in a glass globe, being connected with one of Dubosq's regulators, which communicated with the battery by a copper wire covered with gutta percha. The globe submerged to a depth of fifteen feet, spread light over a circumference of thirty feet radius, and it remained constant for two hours, after which the carbon required replacing. Dubosq's arrangement is light, so that a submarine diver may carry it in his hand, and at the same time it is strong and well secured hermetically to resist a pressure of six hundred pounds of sea water. It consists of a cylinder of strong glass, secured to a brass foot, and surrounded with a gutta percha sack. The light passes out through a large plano-convex lens, with the convexity inward, the focus being so arranged that the rays escape nearly parallel. As the lamp is movable, the diver walks about with it, and places it in the proper relation to the point where he wishes to make any search; and as it is only necessary to bring the electrodes near one another to light it, the diver need only turn a small screw to continue the light for two hours, which is more than twice as long as he can remain at the bottom.

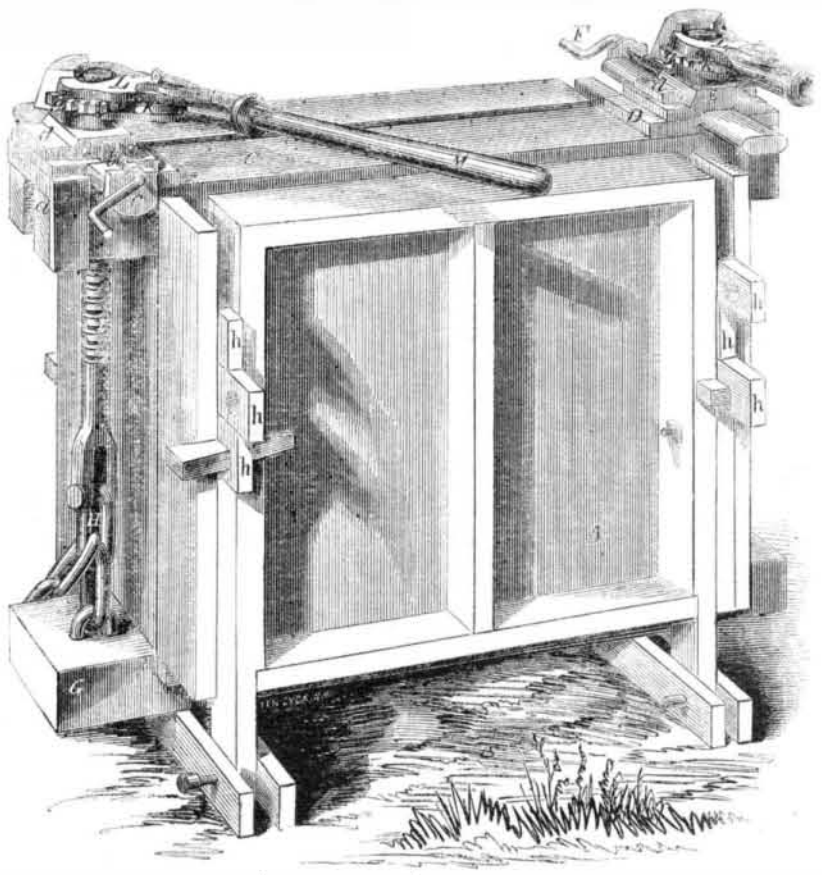
Improved Hop and Hay Press.

When, as often happens in presses, the follower in its descent takes an inclined position, the press will not of course operate with freedom, but in the subject of our illustration this difficulty is the subject of special attention, and has been successfully overcome.

The accompanying engraving is a perspective view of the hops, hay or cotton press, invented by Lincoln L. Cummings, of Munnsville, Madison county, N. Y., and patented by him June 15, 1858.

A represents a case or box of rectangular form, in which is fitted a follower or plunger, capable of working freely up and down. C is a bar that is placed on the top of the follower and longitudinally with it, the ends of the bar projecting beyond the ends of the follower, and having a T-shaped slot, *a*, made vertically in each end. On each end of the bar, C, a cap, D, is placed, having oblong slots made through them. These caps are provided at each end with a handle, *c*, and on each cap a plate, E is placed, passing between guides, *d*, which form part of the cap, D.

CUMMING'S HOP AND HAY PRESS.



g, into which a spring pawl, K, catches. These pawls are fitted in sockets, L, that can move freely upon the nuts. In these sockets, L, hand levers, M, are placed, to operate the press.

Each side of the case or box, A, at its upper part is formed of a series of slats, *h*, which are placed one over the other between proper guides, so that they may be withdrawn as the follower descends, and the substance within the box is compressed.

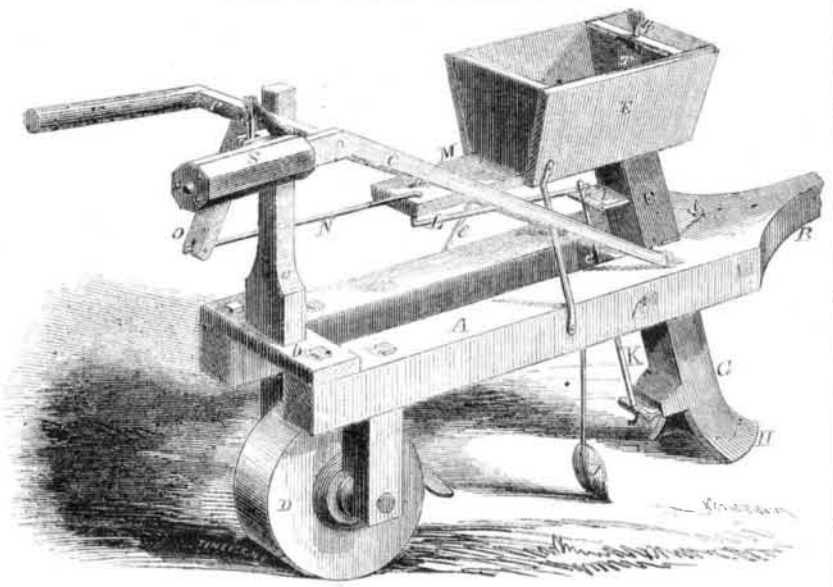
The operation is as follows:—The follower is depressed upon the hops, hay or cotton by turning the hand levers, M, and consequently the nuts, so that as they are made to descend on the screws, I, they carry C and the follower with them. Should the follower become inclined, as the screws, I, have room to move in the T-shaped slot, *a*, so that it will operate the follower when inclined, and gradually make it level.

Many of these presses are in use for hop pressing, and give general satisfaction. They are for sale by the inventor and manufacturer, and any information concerning rights, &c., can be obtained by addressing him as above.

The plates are adjusted by crank handles, F, and screws, *e*, which pass through a central opening in E.

To the bottom of the case or box, A, a bar, G, is attached. This bar projects beyond the box at each end, and to it a chain, H, is attached. To the upper end of the chain a screw, I, is secured, and these screws pass through the inner part of the slots, *a*, in the bar, *c*, through the slots in D, through E, and a nut is fitted on to each screw above the plate, E. Each nut is surrounded by teeth,

JONES' SEED PLANTER.



The object of the inventor of this seed planter—S. F. Jones, of St. Paul, Ind.—has been to furnish one in which the operator would have a full and perfect control over the distributing device, without regard to the draught movement of the machine, so that he could deposit the seed at the precise spot desired. That this object has been fully attained will be seen from the following description and accompanying engraving, which is a perspective view of this seed planter.

A is the frame composed of two parallel bars to the front ends of which the tongue, B, is secured. The back ends of the bars are connected by a bar, *b*, to the center of which an upright, *c*, is attached, which serves as a brace by means of a crossbar for the handles, C. To the back part of A, a wheel, D, is secured to support the back of the machine. E is a seed box, supported by bars, *e*, and a seed or discharging tube, F, the lower end of which is connected with a tube, G, secured to the underside of the frame, and having a furrow share, H, formed on its lower end. In the upper part of the tube, F, a slide, I, is placed, and a slide, J, is placed in the lower part of the tube, G. These slides work through the backs of the tubes, and are connected one to the upper, and the other to the lower end of rod, K, which is pivoted in the frame, A. To the upper end of the rod, K, a rod, L, is pivoted, the latter rod working in a guide in the bottom of the seed box. The outer end of the rod, L, is bent upwards, and is fitted in a groove in the slide, M, which works in the bottom of the seed box. N is a rod that is attached to M, and to the arm, O, of the crossbar, B, to which it is also attached another arm at right angles to the first. This is connected by the link, Q, which is also connected with a projection from the tube, S, that is fitted loosely upon one of the handles. The slide, M, has an oblong longitudinal slot made in it, and an adjustable plate or slide is fitted in this slot, the slide being adjusted by a set screw. By adjusting the plate the slot may be made of greater or less capacity as occasion may require. In the front end of the feed box, E, a vertical slide, T, is placed; this is provided with a brush or cut-off, and is regulated by the set screw, *q*. and this prevents the slot becoming piled up with seed and holding more than its proper quantity.

The operation of the machine is simple. The seed to be planted is pleced on the box, E, and the slot in M regulated to contain the proper quantity, then as the machine is drawn along the ground the operator with his right hand turns S half round, first one way and then the other, and by so doing moves the the slides, M I J, so that the seed can be stayed from falling, or permitted to fall in exactly the place required. The coverers, U, then throw soil over it, and D aids in pressing it lightly down.

A patent was granted for this invention June 22, 1858, and any further information can be obtained by addressing as above.

Vehicles of Intelligence.

Newspapers, like nations, have a historical existence. They "go to and fro" in the avenues of society and exert a powerful influence. Tribes and individuals far removed from hearing what is transpiring among men are always ignorant and degraded. That person who uses means to obtain a record of passing events always improves and advances in knowledge; the man who is dead to such influences is dead to his own best interests. Well did the old Greeks know the value of obtaining new information. When voyagers and travelers came to their ports and cities, they were taken to their public marts and requested to recite an account of what they had seen and heard abroad. The influence of this custom, before the art of printing was discovered, was like that of our modern newspaper; it tended to excite the people, and lead them to achieve reputation in all that was held worthy of being distinguished. The result was, they attained to the loftiest position in learning and the arts in those days, and in many things they are still our masters and instructors.

As attainments in the useful arts make men distinguished and nations great, we take occasion at the commencement of a new volume to solicit the favor of our constant readers in extending the circulation of a paper devoted to disseminating such information among the people as is useful and elevating. We urge our friends to give us their assistance in presenting the claims of the Scientific American to their acquaintances. We have no doubt but there are a great many mechanics, manufacturers, and others, who would become subscribers were our paper brought to their notice, and its character and advantages pointed out by those who know it well.